# Dlx1&2 and Mash1 transcription factors control MGE and CGE patterning and differentiation through parallel and overlapping pathways.

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**Public Summary:**

**Scientific Abstract:**
Here we define the expression of approximately 100 transcription factors (TFs) in progenitors and neurons of the developing mouse medial and caudal ganglionic eminences, anlage of the basal ganglia and pallial interneurons. We have begun to elucidate the transcriptional hierarchy of these genes with respect to the Dlx homeodomain genes, which are essential for differentiation of most gamma-aminobutyric acidergic projection neurons of the basal ganglia. This analysis identified Dlx-dependent and Dlx-independent pathways. The Dlx-independent pathway depends in part on the function of the Mash1 basic helix-loop-helix (b-HLH) TF. These analyses define core transcriptional components that differentially specify the identity and differentiation of the globus pallidus, basal telencephalon, and pallial interneurons.